

## **Assembly consisting of a hand-held tool and an attachment for hooking the tool, and the hooking attachment**

The invention relates to the field of hand-held tools operating with any type of power, such as electric power, thermal energy, pneumatic power, etc. following the manual operation, e.g. of a trigger, by an operator. These are essentially fastening tools intended to drive plugs into a substrate material, such as nail drivers, hammers, etc.. It is preferable that the operators do not leave their tools lying around when they are not in use.

The Applicant therefore had the idea of proposing an attachment for fastening a tool of this kind to the belt of an operator.

The invention therefore relates firstly to the assembly consisting of a hand-held tool and an attachment comprising a loop designed to be threaded on to a belt and provided with a catch finger for the tool, the tool being designed to hook on to the finger in the operating position before being able to swing under its own weight into a position in which locking means prevent it from becoming unhooked from the finger.

The locking means are advantageously provided on the catch finger.

In a preferred embodiment, the catch finger comprises an end designed to be passed through an opening of an associated shape provided in the handle of the tool, the end to be passed through the opening providing a groove for receiving the handle of the tool and forming the means for locking the hooked tool in the position in which it is swung under its own weight.

The end of the catch finger also preferably comprises an end portion mounted to be pivoted into a position for locking the hooked tool in the operating position in case the tool should swing from the position in which it is swung under its own weight in the opposite direction into the operating position as the result of an unexpected movement by the operator.

The invention also relates by way of an intermediate means to an attachment comprising a loop designed to be threaded on to a belt and provided with a catch finger for a tool, the finger including locking means preventing the tool from becoming unhooked.

The catch finger advantageously comprises a groove for receiving the tool, the end of the catch finger comprising an end portion mounted to be pivoted into a position for locking the hooked tool.

The invention will be more readily understood with the aid of the following description of the preferred embodiment of the attachment of the invention and its method of use, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of the attachment of the invention and a of tool to be hooked thereon after use;

Figure 2 is a perspective view on a larger scale of the detail D<sub>2</sub> of Figure 1;

Figure 3 is a perspective view of the attachment with the tool hooked thereon, but in the operating position;

Figure 4 is a view similar to that of Figure 3, but after the tool has been swung under its own weight, and

Figure 5 is a view similar to that of Figure 4, but after locking of the hooked tool.

The invention as shown in Figure 1 comprises a loop 1, in this case already threaded on to the belt 2 of an operator who has just finished using a fastening tool 3. The loop 1 is provided on its external wall 4 with a catch finger 5, in this case extending substantially perpendicularly to this external wall from an anchoring base 6 to an end 7 for passing through the handle of the tool and for locking the tool.

The anchoring base 6 comprises a retaining plate or ring (not visible in the figure) bearing against the internal face 8 of the belt 2 and provided with an anchoring pin 9 driven through an opening 10 provided in the belt.

A groove 11 for receiving the tool is provided between the anchoring base 6 and the end 7 of the finger 5, forming a first stop shoulder together with the end 7 and, more particularly, an internal portion 12.

The end 7 of the finger 5 comprises two portions 12, 13, the internal portion 12 and an external end portion 13 which is mounted to pivot from a passing-through position in which its peripheral surface 15 extends that 16 of the internal portion 12 to a locking

position in which the two portions 12, 13 are substantially perpendicular to one another, crosswise (Figure 5), in order to form a second stop shoulder. The two portions 12, 13 are formed by two small cylinders formed around the longitudinal axis 14 of the catch finger 5 and having a substantially elliptical section.

The tool to be hooked on to the finger 5 is in this case a fastening tool, well known by the person skilled in the art. This is a hand-held tool comprising a handle 17. An opening 18 is provided in the handle 17, having a shape corresponding to that of the two portions 12, 13 for passing through the opening and for locking the catch finger 5, and having a slightly larger section, precisely so that these finger portions can pass through the opening in the handle of the tool.

Following the description of the attachment and the tool, their use will now be described.

Once the operator has finished using the tool, in order to hook it on to his belt 2, he continues to hold the tool by its handle 3, i.e. in the operating position, and engages the opening 18 in the handle over the finger 5 by passing the end portions 12, 13 into the opening 18 in the handle of the tool. He then allows the handle to be placed on the groove 11 of the handle, then allows the tool to swing under its own weight, the nose of the tool pivoting downwards.

In this swung position, the hooked tool is locked by means of the internal part 12 of the catch finger as a result of the fact that the opening 18 in the handle 17 has also pivoted through substantially 90° relative to this internal end portion 12, wherein the handle can come to a stop against it in the first stop shoulder 11, 12, which prevents it from becoming unhooked. The operator then pivots the external end portion 13 through 90° relative to the internal portion 12. In this manner, even if the tool were to swing again in the opposite direction into the operating position as the result of an unexpected movement by the operator and the opening 18 in the handle 17 were to pass once again over the internal portion 12 of the catch finger 5, the handle 17 would come to a stop against the external end portion 13 in the second stop shoulder 12, 13, the opening 18 remaining substantially perpendicular to this external portion 13. The tool 3 hooked on to the finger 5 would continue to be locked.